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10/740,036	12/18/2003	Yoshiya Hirase	883.0005.U1(US)	2501

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HARRINGTON & SMITH, PC
4 RESEARCH DRIVE
SHELTON, CT 06484-6212

EXAMINER	
ZHE, MENG YAO	
ART UNIT	PAPER NUMBER
2195	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/740,036	HIRASE, YOSHIYA	
	Examiner	Art Unit	
	MENGYAO ZHE	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/13/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are presented for examination

2. The affidavit filed on 2/13/2008 under 37 CFR 1.131 is sufficient to overcome the Karam et al., Patent No. 7,111,089 reference.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

4. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a

nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

5. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of Patent Application No. 10/740,034. Although the conflicting claims are not identical, they are not patentably distinct from each other because both computer methods comprise substantially the same elements.

7. As per claim 1 of this application and claim 1 of 10/740034, they both teach a device architecture comprising an operating system comprising an OS scheduler, a DCHL layer comprised of a plurality of LEs and interposed between said OS and said DCHL layer, a TEMAS that cooperates with the OS scheduler.

The first difference between this application and 10/740034 is that claim 1 of 10/740034 additionally teaches that a processor is used to run the OS.

However, it would have been obvious that in order to run the OS, a processor is needed so that the OS, which is software, has a hardware processor to run on.

The second difference between this application and 10/740034 is that claim 1 of 10/740034 additionally teaches that there is a hardware that comprises the DCHL layer.

However, it would have been obvious that a logic unit layer such as DCHL needs a hardware to run on.

The third difference between this application and 10/740034 is that 10/740034 teaches that the TEAMS is for scheduling the LEs of the DCHL to execute applications in accordance with inherited application priorities. This application, on the other hand, merely states that TEAMAS is for scheduling and for prioritizing the applications.

However, claim 1 of this application further goes on to say that based on the scheduling and the priority, configuring at least some of the plurality of LEs of the DCHL to execute the applications. Hence, indirectly, TEMAS ultimately schedules LEs of DCHL and execute the applications with its associated priority.

The fourth difference between this application and 10/740034 is that 10/740034 teaches inherited priority whereas this application simply teaches priority.

However, priorities of applications are always inherited from someone, either directly given by the user (thus inherited from the user) or the OS that manages the applications as they run according to its rules. Therefore, priorities are inherited.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-6, and 13-17 are rejected because the claimed invention, appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e. a practical application).

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following claim languages are unclear and indefinite:

i) Claim 1, it is uncertain how "the device" of line 4 is related to "a device architecture" of line 1 <i.e. are they the same thing? If so, is the OS running on the device as well? Consistent names should be used.>

Claims 7 and 13 have the same deficiencies as claim 1 above.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoskins, Patent No. 6,789,132 in view of Kaihlaniemi, Patent No. 6,370,591 (hereafter Kaihlaniemi).

14. Hoskins and Kaihlaniemi were cited in the previous office action.

15. As per claims 1 and 7, Hoskins teaches a device architecture for running applications, comprising:

a Dynamic Configurable Hardware Logic (DCHL) layer comprised of a plurality of Logic Elements (LEs) (Fig 2, unit 110 and all of unit 202 except unit 222) dynamically configured to run applications (Column 19, lines 16-20);

interposed between a host computer (Fig 2, unit 200) and said DCHL layer, a TiEred Multi-media Acceleration Scheduler (TEMAS) that cooperates

with the host computer for scheduling and for prioritizing the applications (Column 2, lines 10-22; Column 19, lines 1-5; Column 20, lines 34-37);

Base on the scheduling and the priority (Column 2, lines 10-22; Column 19, lines 1-5; Column 20, lines 34-37), configuring the at least some of the plurality of LEs of the DCHL to execute applications (Column 5, lines 35-39; Column 6, lines 1-10, lines 41-47; Column 7, lines 1-19).

Hoskins does not specifically teach that the host computer has an operating system comprising an OS scheduler that the TEMAS cooperates with.

However, Kaihlaniemi teaches personal computers running operating systems that are able to communicate with external devices (Column 1, lines 11-33) for the purpose of controlling devices using operating systems. It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to have combined the teachings of Hoskins with the host computer has an operating system comprising an OS scheduler that the TEMAS cooperates with, as taught by Kaihlaniemi, because it allows for the operating system to control devices.

16. As per claims 2, 8, 14, Hoskins teaches where the TEMAS is comprised of a Tier-1 scheduler that communicates with the OS scheduler and at least one Tier-2 scheduler (Fig 3, units 303, 305, and 307) interposed between the Tier-1

scheduler and one DCHL configurable device (Column 6, lines 50-57; Column 7, lines 1-19; Column 8, lines 39-44).

17. As per claims 3, 9, 15, Hoskines teaches where the TEMAS operates in response to configuration requests to configure and reconfigure at least some of the plurality of LEs in accordance with at least one algorithm logic (Column 7, line 1-9; Column 8, lines 39-64; Column 9, lines 10-21).

18. As per claims 4, 10, 16, Hoskins teaches where said plurality of LEs are disposed within at least one context plane (Fig 2, unit 110 and all of unit 202 except unit 222).

19. As per claims 5, 11, Hoskins teaches an application layer that comprises at least one application (Column 20, lines 34-37), a service layer that comprises said Tier-1 scheduler (Fig 2, unit 222), a node layer that comprises said at least one Tier-2 scheduler that is coupled to a scheduling algorithm of said Tier-1 scheduler (Fig 3, units 303, 305, 307, 301), and a hardware layer that comprises said at least one DCHL configurable device (unit 110 and unit 212).

Kaihlaniemi teaches an operating system with scheduler (Column 1, lines 12-28)

20. As per claim 6, 12, Kaihlaniemi teaches where said device comprises a device having wireless communications capability (Column 1, lines 48-50).

21. As per claim 13, Hoskins teaches an applications layer comprising a plurality of applications (Column 20, lines 34-37); a hardware layer comprising Dynamic Configurable Hardware Logic (DCHL) comprised of a plurality of Logic Elements (LEs) (unit 110 and unit 212); and interposed between host computer and said DCHL in said service layer and in a node layer, a TiEred Multi-media Acceleration Scheduler (TEMAS) that cooperates with the host computer for scheduling and configuring the LEs of the DCHL to execute said applications (Column 5, lines 35-39; Column 6, lines 1-10, lines 41-47; Column 7, lines 1-19).

Kaihlaniemi teaches personal computers running operating systems that are able to communicate with external devices (Column 1, lines 11-33) and a wireless communication device (Column 1, lines 48-50).

22. As per claim 17, Kaihlaniemi teaches where said device comprises a cellular telephone (Column 1, lines 48-50).

23. As per claims 18-20, Hoskins where the plurality of LEs are configured as more than one algorithm logic and where the more than one algorithm logic operate simultaneously to execute the applications (Column 2, lines 10-22;

Column 19, lines 1-5; Column 20, lines 34-37: multi-tasking gives the illusion of concurrency).

Response to Arguments

24. Applicant's argument filed on 2/13/2008 regarding claims 1-17 have been fully considered but are not persuasive.

25. In the remark applicant argued in substance that:

i) Pg 12, The scheduler module is not a TEMAS, which is "a multi-layered scheduler, such as a two-layered scheduler".

ii) Pg 10, Hoskins does not disclose "logic elements that are dynamically configured to execute applications".

The Examiner respectfully disagree with the applicant, as to point

i) Based on the specification, a TEMAS is a two-layer scheduler that has a layer one that communicates with the OS scheduler and a layer two that is interposed between layer one and a hardware device. Hoskin discloses a host computer (Fig 1, unit 200) that indirectly accesses and partially controls a data storage device through a disc drive control module (Fig 2, unit 108). The Examiner equates the disc drive control module to a TEAMS because it is a two-layered scheduler in the following way. The disc drive control module contains a host module that handles host related functions including control and interrupt commands sent from the host

computer to the disc drive control module (Column 5, lines 35-39; Column 7, lines 1-9). Since the disc drive control module is used to communicate with the host computer, it is considered to be layer one of the disc drive control module. Moreover, this disc drive control module has access to the disc-servo module (Column 7, lines 7-9). The disc-servo module, in turn, is used for direct control of reading and writing to the disc of the data storage device (Column 7, lines 16-20). Since the applicant never specifically defined what is meant by the layer two being "interposed between layer one" and a hardware device, the Examiner considers the disc-servo module to be layer two of the multi-layered scheduler since it is interposed between two things in the sense that layer one host module controls layer two disc-servo module, which in turn directly controls the data storage device.

ii) Since the applicant never specified what the applications are or does, the Examiner has interpreted the applications to be groups of command instructions that are scheduled to be run by all the modules present in the disc drive control module. Hoskins discloses this in his invention where the scheduler module schedules different modules with their associated commands to be run at different times (Column 11, lines 25-40; Column 11, lines 59-Column 12, lines 10). Moreover, those commands may have priorities assigned to them (Column 2, lines 10-22; Column 19, lines 1-5; Column 20, lines 34-37). More importantly, in Column 20, lines 35-37, Hoskins specifically states "a number of different

command node...may be used depending on...application...for which the queue processor may be used". Therefore it is inherent that the queue processor along with its commands (Column 19, lines 16-20) is being used to run applications.

Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195